

**CLAIMS:**

1. A wind instrument comprising:
  - a plurality of pipes each having a respective open  
5 end;
  - a plurality of movable elements each configured to  
move in relation to a corresponding one of the  
plurality of pipes and defining a respective movable  
end thereof, wherein each of the plurality of pipes  
10 has an effective length defined by its respective  
open end and its respective movable end;
  - a mechanism coupled to the plurality of movable  
elements, the mechanism being operative for  
simultaneously reciprocating each of the movable  
15 elements between a respective first position and a  
respective second position thereby inducing an  
absolute change in the effective length of each of  
the plurality of pipes;
  - wherein the absolute change in the effective length  
20 is different for each of the plurality of pipes.
2. A wind instrument as defined in claim 1, the mechanism  
comprising a member mounted to the instrument, wherein  
actuation of the member causes each of the movable  
25 elements to simultaneously move between its respective  
first position and its respective second position.
3. A wind instrument as defined in claim 1, each of the  
movable elements comprising a protrusion, the  
30 mechanism comprising a member defining a plurality of  
apertures, wherein each of the apertures is configured  
to receive the protrusion of a corresponding one of  
the movable elements, wherein actuation of the member  
causes each of the movable elements to simultaneously

move between its respective first position and its respective second position.

4. A wind instrument as defined in claim 1, each of the  
5 movable elements defining an aperture on a surface thereof, the mechanism comprising a member having a plurality of protrusions, wherein the aperture of each of the movable elements is configured to receive a corresponding one of the plurality of protrusions,  
10 wherein actuation of the member causes each of the movable elements to simultaneously move between its respective first position and its respective second position.
- 15 5. A wind instrument as defined in claim 2, wherein the member is pivotally mounted to the instrument, the mechanism further including an actuator configured to cause pivotal movement of the member, the actuator capable of acquiring:
- 20 - a first position in which the member occupies a first angular position and in which each of the movable elements occupies its respective first position; and
- 25 - a second position in which the member occupies a second angular position and in which each of the movable elements occupies its respective second position.
- 30 6. A wind instrument as defined in claim 5, wherein the effective length of each of the plurality of pipes is greater when the corresponding movable element occupies its respective first position than when the corresponding movable element occupies its respective second position.

7. A wind instrument as defined in claim 5, wherein the effective length of each of the plurality of pipes is greater when the corresponding movable element occupies its respective second position than when the corresponding movable element occupies its respective first position.
8. A wind instrument as defined in claim 5, wherein the actuator comprises a manual push button.
9. A wind instrument as defined in claim 8, the actuator further comprising a stop to inform a player that the actuator has acquired the second position.
10. A wind instrument as defined in claim 5, wherein the actuator comprises a foot pedal.
11. A wind instrument as defined in claim 5, wherein the mechanism further comprises a coil spring for urging the member to pivot between the first and second angular positions.
12. A wind instrument as defined in claim 2, wherein the absolute change in the effective length of each of the plurality of pipes defines a relative change in the effective length of said pipe, wherein the relative change in the effective length of each of the pipes is substantially identical.
13. A wind instrument as defined in claim 12, wherein said relative change is approximately equal to  $\sqrt[3]{2}$ .

14. A wind instrument as defined in claim 12, wherein said relative change is approximately equal to  $\sqrt[2]{1/2}$ .
- 5 15. A wind instrument as defined in claim 1, wherein for each of the movable elements, the respective movable end defined by said movable element is a closed end for the corresponding one of the pipes.
- 10 16. A wind instrument as defined in claim 1, wherein for each of the movable elements, the respective movable end defined by said movable element is open.
- 15 17. A wind instrument as defined in claim 1, wherein each of the movable elements comprises a hollow tube in slidable axial engagement with the corresponding one of the pipes, the hollow tube having an open end and a closed end, the closed end of said hollow tube defining the movable end of the corresponding one of the pipes.
- 20 18. A wind instrument as defined in claim 1, wherein each of the movable elements comprises a hollow tube in slidable axial engagement with the corresponding one of the pipes, the hollow tube having a first open end and a second open end, the second open end of said hollow tube defining the movable end of the corresponding one of the pipes.
- 25 19. A wind instrument as defined in claim 17, wherein each hollow tube is adapted to slide axially within the corresponding one of the pipes.
- 30 20. A wind instrument as defined in claim 17, wherein each of the pipes has an outer surface, each hollow tube

being adapted to slide axially on the outer surface of the corresponding one of the pipes.

21. A wind instrument as defined in claim 1, wherein each  
5 of the movable elements comprises a respective piston in slidable axial engagement within the corresponding one of the pipes, wherein the piston defines the movable end of the corresponding one of the pipes.
- 10 22. A wind instrument as defined in claim 21, each of the movable elements further comprising a threaded rod mounted to a complementarily threaded base, wherein rotation of the rod with respect to the base causes axial displacement of the piston of the respective one  
15 of the movable elements in relation to the open end of the corresponding one of the pipes to allow fine-tuning of the effective length of the corresponding one of the pipes.
- 20 23. A wind instrument as defined in claim 3, wherein each of the apertures has a substantially oblong configuration.
24. A wind instrument as defined in claim 3, wherein each  
25 of the apertures has a curved configuration.
25. A wind instrument as defined in claim 1, wherein each of the movable elements is locked against rotational movement about the corresponding one of the pipes.
- 30 26. A wind instrument as defined in claim 3, wherein each of the apertures is configured to interact with the received protrusion of the corresponding one of the movable elements such as to cause the corresponding

one of the movable elements to reciprocate between its respective first position and its respective second position without rotating in relation to the corresponding one of the pipes.

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27. A wind instrument as defined in claim 1, wherein the plurality of pipes are parallel and wherein the open ends of the plurality of pipes are arranged in substantially linear alignment when viewed from a point in a common plane that is perpendicular to the pipes.

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28. A wind instrument as defined in claim 1, wherein the plurality of pipes are parallel and wherein the open ends of the plurality of pipes are arranged along a curve when viewed from a point in a common plane that is perpendicular to the pipes.

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29. A method of playing a wind instrument having a plurality of pipes each with an open end and a movable end, the open end and the movable end of each pipe defining an effective length of that pipe, the method comprising:

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- blowing into the open end of a selected one of the pipes to produce a first musical note having a first fundamental frequency;

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- actuating a mechanism to simultaneously vary the effective length of the selected one of the pipes and the effective length of at least one of the pipes other than the selected one of the pipes, wherein the absolute variation of the effective length of the selected one of the pipes is different from the absolute variation of the effective length

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of the at least one of the pipes other than the selected one of the pipes; and

- blowing into the open end of the selected one of the pipes to produce a second musical note having a second fundamental frequency.

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30. A method as defined in claim 29, wherein the second fundamental frequency is a half-tone above or below the first fundamental frequency.

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31. A method as defined in claim 29, wherein the second fundamental frequency is a quarter-tone above or below the first fundamental frequency.